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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,068	03/23/2006	Ivan Salgo	US030379US	6954

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EXAMINER

LEACH, CRYSTAL I

ART UNIT	PAPER NUMBER
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3737

MAIL DATE	DELIVERY MODE
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10/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,068	Applicant(s) SALGO, IVAN	
	Examiner CRYSTAL I. LEACH	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/23/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The Information Disclosure Statements (IDS) submitted on March 23, 2006 is in compliance with 37 CFR 1.97 and 1.98. The references therein have been considered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-12 and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Chenal et al. (US 2002/0072671).

4. Regarding claims 1 and 6, Chenal et al. teach a method for ultrasonically measuring a volumetric object (see abstract) of a body comprising: acquiring ultrasonic images of the volumetric object in two intersecting image planes (see para. [0056] and fig. 15c) at substantially the same time with an ultrasound probe using an automated processor to define corresponding object borders in the ultrasonic images (see abstract); and producing quantified measures of the volumetric object from the defined object borders (see para. [0040]). See also para. [0004] and [0023].

Regarding claim 2, Chenal et al. teach producing a graphical model of the volumetric object using the defined object borders and wherein producing quantified measures further comprises producing quantified measures using the graphical model (see para. [0023]-[0032]).

Regarding claims 3, 9 and 10, Chenal et al. teach producing a display comprising real time images from the two intersecting image planes with a visually highlighted defined object border in each image and a quantified measure using the defined object border of the images (see fig. 5a-5c, 8, 9, 12).

Regarding claim 4, Chenal et al. teach producing a display comprising a quantified measure further comprises producing a display of changes in the volumetric object as a function of time (see para. [0023], [0040]). Examiner notes that the method of Chenal et al. is conducted in real-time and that the volume of the beating heart changes as a function of time. Therefore, changes in the volumetric object (i.e. the heart) are displayed as a function of time in Chenal et al..

Regarding claims 5 and 7, Chenal et al. teach wherein the display of changes in the volumetric object as a function of time comprises a graphical display, a numerical display or both a graphical and numeric display (see para. [0038]-[0041]).

Regarding claim 8, Chenal et al. teach wherein producing quantified measures further comprises using the graphical model to produce a volumetric measure by the rule of disks (see para. [0040]).

Regarding claims 11 and 16, Chenal et al. teach a method for ultrasonically measuring a volumetric object (see abstract) of a body comprising: acquiring ultrasonic images of the volumetric object in two intersecting image planes (see para. [0056] and fig. 15c) at substantially the same time with an ultrasound probe; using an automated processor to define corresponding object borders in the ultrasonic images (see

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abstract); and producing a graphical model of the volumetric object using the defined object borders (see para. [0053]). See also para. [0004] and [0023].

Regarding claim 12, Chenal et al. teach wherein using an automated processor further comprises using an automated processor to automatically trace corresponding object borders in the ultrasonic images; and wherein producing a graphical model comprises producing a wireframe model by fitting a series of curves to the traces in their corresponding image planes (see para. [0035] and fig. 16).

Regarding claim 14 and 17, Chenal et al. teach wherein producing a graphical model further comprises fitting a surface to the wireframe model (see fig. 5a-5c, 8, 9, 12).

Regarding claim 15, Chenal et al. teach producing quantified measures of the graphical model by the rule of disks (see para. [0040]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chenal et al. (US 2002/0072671).

Chenal et al. teach that curves can be fitted into a number of shapes including for example hemi-ellipses or ellipse type shapes (see para. [0031] and fig. 5a-5c, 9) and that the curves can be adjusted or modified as desired to fit the structure (see para.

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[0032]). Chenal et al. also teach that the series of curves further comprise a series of hemi-ellipses (see fig. 14a). It would be obvious to one of ordinary skill in the art that if the user desired to make a series of ellipses instead of hemi-ellipses as shown in fig. 14a, it would be possible utilizing the system of Chenal et al. given that adjustments and modifications may be made.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Friemel et al. (US 2003/0055308) teach ultrasound imaging with acquisition of imaging data in perpendicular scan planes and Yamaguchi (5,107,838) teaches a method of left ventricular volume evaluation using nuclear magnetic resonance imaging.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CRYSTAL I. LEACH whose telephone number is (571)272-5211. The examiner can normally be reached on Monday through Friday, 8 am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art
Unit 3737

/Crystal I Leach/
Examiner, Art Unit 3737